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Sandia National Laboratories

SANDIA NATIONAL LABORATORIES

Expert Sources

Reporters may reach these experts by calling Sandia's Media Relations Dept. at (505) 844-4902 to request an interview. Experts are based in Albuquerque, N.M., unless otherwise noted.

News Media Help Line
(505) 844-4902

Media Relations Team
In New Mexico:
Jim Danneskiold
(505) 844-0587
jddanne@sandia.gov

Heather Clark
(505) 844-3511
hclark@sandia.gov

Stephanie Holinka
(505) 284-9227
slholin@sandia.gov

Sue Holmes
(505) 844-6362
sholmes@sandia.gov

Lindsey Kibler
(505) 844-7988
lmkible@sandia.gov

Valerie Larkin
(505) 284-7879
vlarkin@sandia.gov

Mollie Rappe
(505) 844-8220
mrappe@sandia.gov

Nancy Salem
(505) 844-2739
mnsalem@sandia.gov

Neal Singer
(505) 845-7078
nsinger@sandia.gov

In California:
Patti Koning
(925) 294-4911
pkoning@sandia.gov

Michael Padilla
(925) 294-2447
mjpadil@sandia.gov

Julia Bernstein
(925) 294-3609
jberns@sandia.gov

ADDITIVE MANUFACTURING

Mark F. Smith, deputy director for Additive Manufacturing in the Materials Science and Engineering Center, has been involved with additive manufacturing at various levels for more than 30 years. He works with additive manufacturing activities across Sandia and promotes interactions with university, industry and government partners.

AVIATION RESEARCH

Dennis Roach has expertise in experimental and analytical assessment and nondestructive inspection of structures and mechanical systems. He specializes in damage tolerance and inspection of composite and metallic structures, including developing sensors for in-situ monitoring. He works to maintain aging aircraft airworthiness and extend advanced aviation technology to energy infrastructure, civilian industries and homeland security.

BATTERY ABUSE TESTING LABORATORY

Chris Orendorff is team leader for Sandia's Battery Abuse Testing Laboratory, the nation's leading source for determining the safety and reliability of electric-car batteries.

Leigh Anna Steele leads the Battery Safety Testing Laboratory (BATLAb), part of Sandia's Power Source Technology Research & Development group. The lab provides safety and abuse testing on batteries, including rechargeable and non-rechargeable cells.

BIOFUELS (LIVERMORE, CALIF.)

Ben Wu, senior manager of Biosciences Program, has expertise in biochemical and thermochemical biomass conversion technologies.

John Gladden, acting manager of the Biomass Science and ConversionTechnology department, leads Sandia's algae program.

BIOLOGICAL AND CHEMICAL SECURITY

Jennifer Gaudioso leads Sandia's International Biological and Chemical Threat Reduction Program. Her teams have visited facilities in more than 40 countries to consult on biosecurity and chemical security issues. She heads the World Organisation for Animal Health's Collaborating Centre for Laboratory Biorisk Management.

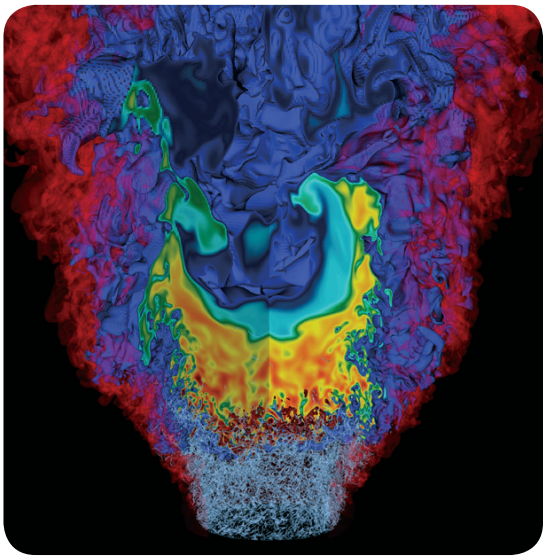
BIOLOGICAL-INSPIRED NANOSCIENCE

George Bachand is a bioengineer who studies nanoscale processes and phenomena in biology and uses the knowledge to design and develop biomimetic nanomaterials, devices and systems.

CLIMATE CHANGE

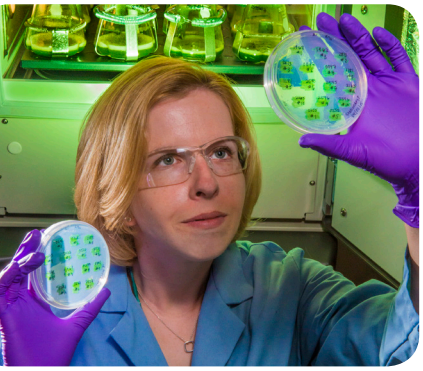
Mark Boslough specializes in assessing potentially catastrophic risks, including asteroid impacts and climate change.

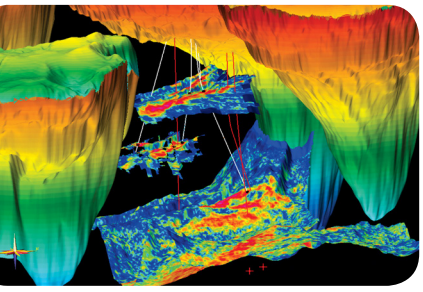
Mark Ivey, a specialist in atmospheric measurements and the Arctic climate, manages climate research facilities for the Department of Energy in Alaska.

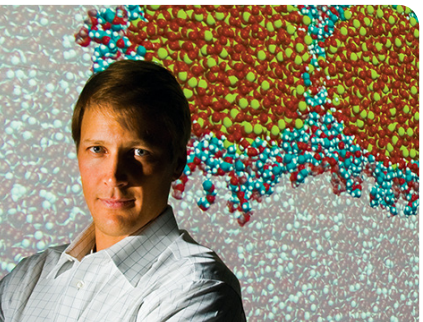


COMBUSTION RESEARCH FACILITY (LIVERMORE, CALIF.)

John Dec, an engine researcher and senior scientist at the Combustion Research Facility, is a renowned expert on low-temperature gasoline combustion, including Homogeneous Charge Compression Ignition.







Craig Taatjes, manager of the Combustion Chemistry department, researches fundamental flame chemistry and the kinetics of elementary reactions important in combustion.

Paul Miles manages the Engine Combustion department, which seeks to increase understanding of internal combustion engine processes that affect efficiency and emissions.

COMPUTING-BIG DATA

Erik DeBenedictis specializes in advanced computing, including supercomputers and supercomputing and research into new computational paradigms, devices, circuits and algorithms, the latter often called "Beyond Moore's Law."

CYBERSECURITY (LIVERMORE, CALIF.)

Karim Mahrous, acting senior manager of the Mission Engineering Sciences group, is an expert in data sciences and cyberdata analytics.

Levi Lloyd, manager of Cyber Systems Research, is an expert in malware R&D, cybersecurity, mitigation and response.

EXASCALE COMPUTING

James A. Ang is Hardware Technology director for the DOE Exascale Computing Project (ECP). His primary responsibility is to define and execute the ECP R&D strategy for component, node and system architecture designs.

HYDROGEN TECHNOLOGIES (LIVERMORE, CALIF.)

Joe Pratt is Sandia's lead for the Hydrogen Fueling Infrastructure Research and Station Technology (H2FIRST) project and develops innovative hydrogen technology solutions for clean energy applications.

Chris LaFleur leads Sandia's Hydrogen Safety, Codes and Standards Program, supporting the development of science-based codes, standards and regulations for hydrogen technologies.

Jonathan Zimmerman manages the Hydrogen and Fuel Cells (H2FC) R&D Program at Sandia and the Hydrogen and Materials Science department at Sandia's California site. He teams with colleagues to identify, develop and execute R&D to advance hydrogen and fuel cell technology as an alternative fuel source in transportation.

TRIBAL ENERGY

Sandra Begay manages renewable energy technical assistance for tribes and has expertise in tribal energy installations, specifically off-grid solar systems including hybrid systems, strategic energy planning and tribal technical internship development.

LIQUID NATURAL GAS

Mike Hightower is a civil and environmental engineer who researches liquefied natural gas safety and security, energy and water interdependencies, water resources and water treatment, the smart grid and microgrids.

MATERIALS SCIENCE

Wahid Hermina manages the Materials Aging and Reliability group and has expertise in experimental and computational engineering sciences, material constitutive models and microscale and nanoscale phenomena.

Michael Valley oversees materials science R&D, including creating new materials, computer modeling, biomaterials, self-assembled nanomaterials, materials characterization technologies and materials for applications ranging from national security to energy.

MEMS

Keith Ortiz is manager of Sandia's Micro Electro Mechanical Systems Technologies department, which does research and development toward advanced MEMS devices.

METEORS

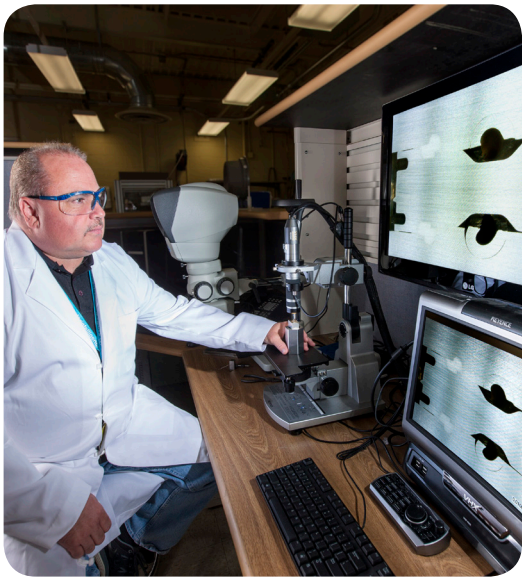
Dale Jackson researches ground- and space-based observations of meteors.

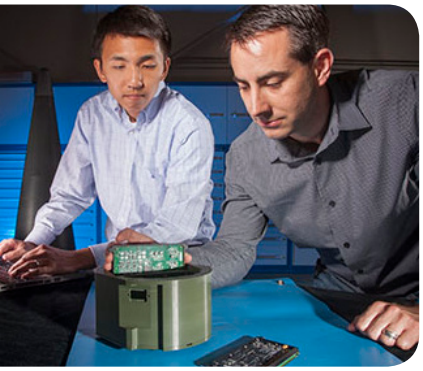
MICROSYSTEMS AND NANODEVICES

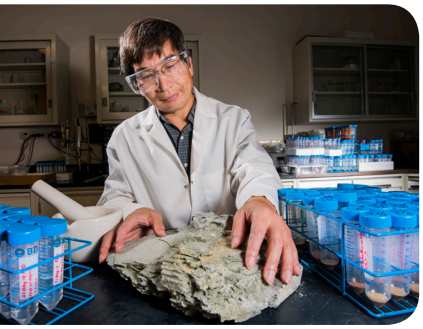
Rick McCormick, a senior manager, leads departments in the Microsystems Process Science & Technology group in the Center for Microsystems Science, Technology and Components. The group works on silicon and compound semiconductor electronics, photonics and radiation effects for such applications as harsh-environment radiation-hardened electronics and photonics, exascale computing and satellite sensing and communication.

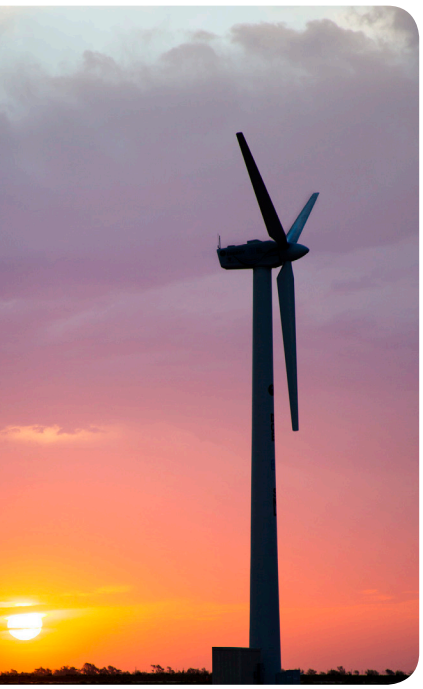
NANOSCIENCE

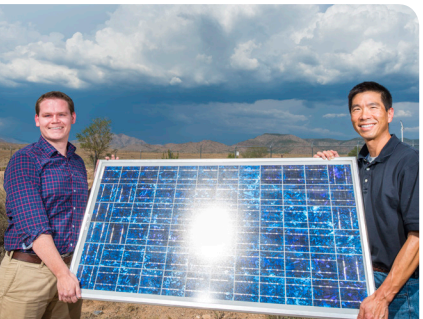
Hongyou Fan of the Materials Science and Engineering Center focuses on synthesis and integration of nano-structured materials and their applications in nano-electronics and nanophotonics.











NANOTECHNOLOGY (LIVERMORE, CALIF.)

François Leonard specializes in nanoelectronics and nanophotonics, particularly carbon nanotubes, nanowires and metal-organic frameworks, with applications in next-generation electronics and photodetectors.

NEUROCOMPUTING

Brad Aimone is a computational neuroscientist whose research focuses on theoretical neuroscience of memory, design of neural computing architectures and neural machine learning algorithms and the application of neural computing to high-performance computing systems.

PHOTONICS

Patrick B. Chu manages Sandia's Applied Photonics Microsystems department, which performs cutting-edge research in silicon photonics and nanophotonics for optical communication, sensing, RF and quantum applications critical for national security.

PHYSICAL SECURITY

Jason Guldan manages the Security System Design and Engineering department, which provides analysis, modeling and electronic security engineering capabilities to customers in the Defense and Energy departments. He has a broad background in physical security for critical national security assets.

POWER ELECTRONICS

Bob Kaplar studies various aspects of power electronics with a particular focus on wide and ultrawide bandgap semiconductor materials applied to power conversion.

RADIATION

Gus Potter does systems analysis studies on the risk and consequences of acts of radiological terrorism, including adversary motivation and capability, availability and security of radiological sources, consequences of using radiological devices and ways to mitigate threats and consequences. He has two decades-plus of experience in determining radiation doses and associated effects on humans.

RADIATION DETECTION

Richard Stump, senior scientist for the Radiological Assistance Program, has more than 40 years' experience in radiation protection, radioactive materials, radiation detection and emergency response. He works with DOE emergency response teams across the DOE complex and provides training to local, state and federal agencies as well as internationally.

RENEWABLE ENERGY & SMART GRID

Ross Guttromson is a technical manager for electric grid power systems research with focus on transmission system planning and expansion including advanced operations, stochastic optimization, wide area stability and control, and smart grid interfaces.

ROBOTICS

Jon Salton of the High Consequence Automation and Robotics group researches robotics, intelligent systems, miniature electromechanical systems and actuators, and advanced and multimodal mobility.

Stephen Buerger of the High Consequence Automation and Robotics group conducts R&D in physically interactive manipulation, energy-efficient and high-performance actuator technologies, autonomy and advanced controls for unmanned systems, advanced mobility, specialized small scale electromechanical systems, sensors, biomedical and human-interactive technologies.

SEMICONDUCTOR MATERIALS

Jerry Simmons, laboratory fellow, initiates and guides programs in basic materials science and semiconductor device physics.

Jeff Tsao, internationally recognized as a pioneer and leader in solid state lighting, works on integrated science, technology and economic modeling in semiconductor and energy technologies and the "science of team science."

SMALL BUSINESS PARTNERSHIPS

Del Salazar is Sandia's Small Business Program manager and leads the execution of Sandia's small business subcontracting plan and supplier diversity efforts.

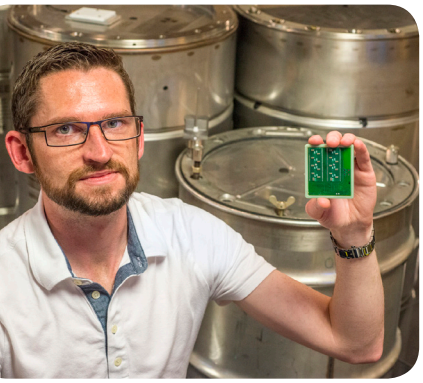
Marie Myszkier is Sandia's lead Supplier Diversity Advocate and specializes in identifying capable, qualified small businesses for Sandia's purchasing needs.

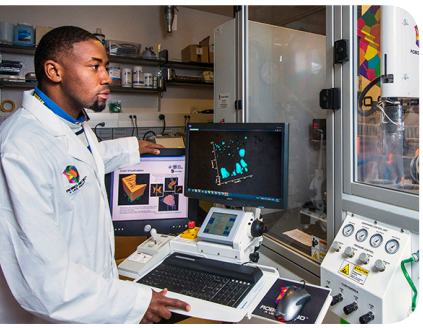
SOLAR FUELS

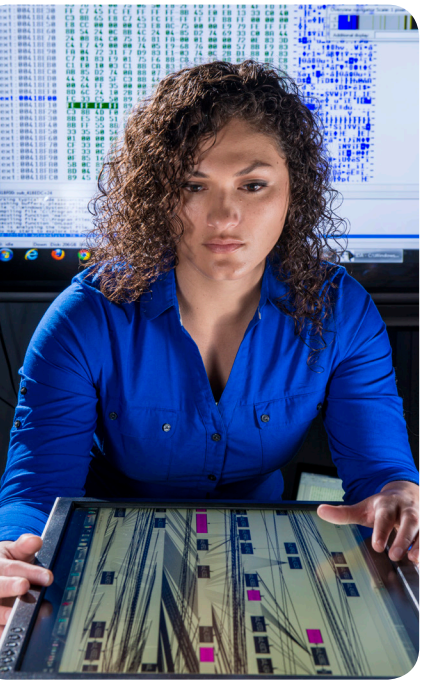
Tony Martino leads Sandia's solar fuels program, which develops high-efficiency production pathways for hydrogen and synthetic hydrocarbon fuels from concentrating solar technology, carbon dioxide and water.

SOLAR POWER

Clifford K. Ho works in Sandia's concentrating solar power program in the areas of high-temperature receivers.







Joshua S. Stein conducts multidisciplinary research on the performance and reliability of photovoltaic energy systems with the aim of breaking barriers for the integration of renewable energy sources onto the nation's electrical grid.

STEM

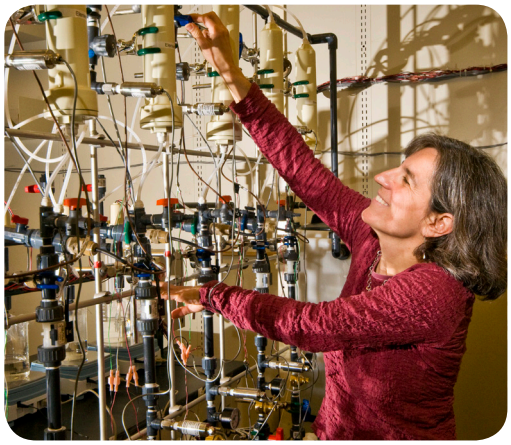
Amy Tapia manages the Community Involvement team and is responsible for hands-on programs that encourage students to pursue science, technology, engineering and math (STEM) careers.

TECH TRANSFER/ECONOMIC DEVELOPMENT

Jackie Kerby Moore has experience in technology-based economic development, industry partnerships, technology commercialization and public-private partnerships. She works with the Sandia Science & Technology Park, New Mexico Small Business Assistance, Entrepreneurial Separation to Transfer Technology, Entrepreneurial Training, Center for Collaboration & Commercialization and Small Business Voucher programs.

WATER

Vincent Tidwell is a hydrologist with experience in water resource modeling, resource planning, water-energy-land interdependences and climate impacts on humans and infrastructure.

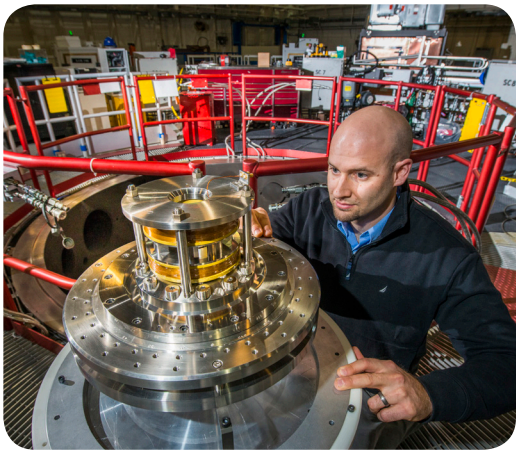


WATER POWER MATERIALS

Bernadette Hernandez-Sanchez leads the Marine and Hydrokinetic (MHK) Advanced Materials Program and the DOE's MHK Composite Materials Database. Applied R&D from the programs provides solutions to materials and coatings problems that could hinder a device's construction, performance, maintenance or reliability. Hernandez-Sanchez develops renewable energy materials, marine composites and coatings.

WIND ENERGY

Todd Griffith works in the Wind Energy Technology department and is technical lead for the Offshore Wind Energy Program. He researches in the areas of large rotor technology development, aero-elasticity of renewable energy systems, structural health monitoring and prognostics management methods for renewable energy systems, and marine hydro-kinetics technology.



Z MACHINE & HIGH ENERGY DENSITY SCIENCE

Daniel Sinars, senior manager of the Radiation and Fusion Physics group, oversees research on inertial confinement fusion and other high energy density (HED) science work. HED and fusion physics encompass laboratory research on extreme states of matter at pressures a million times greater than atmospheric pressure.

Joel Lash manages the Z Facility R&D group, which is responsible for operation and stewardship of Sandia's Z Machine as well as various optical X-ray and neutron diagnostic development and fielding efforts.

U.S. DEPARTMENT OF ENERGY | NNSA National Nuclear Security Administration

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